

Office of the County Veterinarian

Disease Updates

Spring 2007



Issue 2

San Diego County Animal Disease Diagnostic Laboratory

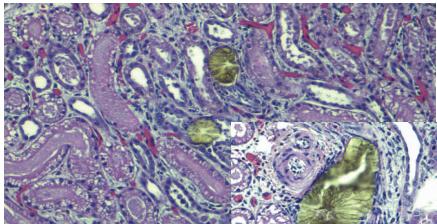
Our Mission

To protect and improve the well-being of animals, agriculture, people and the environment through excellence in diagnostics, outreach and education.



Pet Food Recall

In light of recent events regarding tainted pet foods, this office investigated local animal cases involving recalled foods, notified the FDA of its findings, and disseminating information to the public. At the time of publication, the implicated contaminants were melamine and cyanuric acid, found in wheat gluten and rice protein concentrate. Pathogenesis is speculated to be the formation of melamine-cyanuric acid crystals that destroy renal tubules and result in renal failure. Fifty-nine cases of possible pet food related poisonings have been reported in the county, including 28 deaths. Ten animals (7 cats and 3 dogs) have been necropsied. Nine had intratubular renal crystals consistent with pet food toxicity.



Intratubular renal crystals in a 2 year old male dog with confirmed consumption of a recalled pet food brand.



Dogs

A hepatotoxin is the suspected cause of severe, diffuse, periportal to massive hepatocellular degeneration and necrosis, with portal bridging fibrosis in a 16 month old dalmatian. This dog had shown lethargy,

anorexia, icterus, vomiting, and diarrhea for over 3 weeks before its demise. A littermate had concurrent acute hepatic failure from massive necrosis. A wide variety of toxic agents can be considered, including phosphorus rodenticides, plant toxins, mycotoxins, and various drugs.

Canine Distemper was diagnosed in a 2 month old intact female Chihuahua and suspected in a 2 month old intact male poodle submitted from the same animal shelter 3 weeks apart.

Bordetella bronchisepticum was cultured from the lungs of two 8 day old bluetick coonhounds from the same litter.

Oxalate nephrosis (ethylene glycol toxicity) caused severe kidney damage in a spayed 5 year old rottweiler.

Cats

Oxalate nephrosis (ethylene glycol toxicity) was the cause of death in 2 separate unrelated necropsy cases involving adult male cats.

Panleukopenia was diagnosed from histological lesions in 2 juvenile feral male cats from the same location submitted for necropsy a day apart. Both had peracute pneumonias. However, one was much more severe, associated with necrosis and hemorrhage with intralesional enteric bacteria (*E. coli* and *Enterococcus* species cultured from lungs). **Panleukopenia** was suspected in at least 3 additional cases, one involving a 10 week old intact female Siamese-mix kitten with enteritis, another involving a 3 year old spayed female calico cat with bronchointerstitial pneumonia and acute gastritis, and the third involving a

spayed female domestic short hair with enteritis.

Bordetella bronchisepticum was isolated from the lung of a 10 month old neutered male domestic short hair cat with severe bronchopneumonia.

Aelurostrongylus (lungworm) species were the suspected nematode larvae and ova found in abundance in an intact adult male with pneumonia and nephritis.



Avian

Staphylococcus intermedius, *E. coli*, and **Proteus mirabilis** were isolated from the lung and a deep skin wound on the wing of an 18 year old Harris hawk. **Bacterial septicemia** likely originating from the wing wound contributed to the death of this animal, affecting multiple organs, particularly the heart and brain.

Candidiasis of the crop led to the death of a 4 week old parrot.

Aspergillosis of the air sacs and lungs was diagnosed in an adult male Eclectus Parrot and was determined to be a pre-existing condition in a male Great Blue Heron submitted for surveillance purposes by County Vector Control. Cause of death was diagnosed as acute carnivore trauma.

Systemic **mycobacterial** infection led to the death of a 35 year old yellow-naped Amazon Parrot.

Electrocution trauma was suggested as the cause of death of 6 crows found dead near a utility pole in late November. Necropsies revealed acute trauma and hemorrhage, ranging from humeral fractures to rib and clavicular fractures. This was associated in all birds with marked hemo-coelom and pulmonary hemorrhage.

Botulism can not be ruled out, given the lack of significant lesions identified in 4 gulls submitted as part of **routine avian disease surveillance**. These birds were part of a group of seven found dead at a local beach. There was no evidence of underlying infectious diseases and routine screenings for **West Nile Virus** and **avian influenza** were negative.

As a part of routine **avian disease surveillance**, all birds submitted to the lab are tested for **avian influenza**. Thirty-three birds were tested for **avian influenza (orthomyxovirus)** and **Newcastle Disease (paramyxovirus)** by egg inoculation. All were negative.

Twenty-eight birds were tested for **West Nile Virus** using Real Time PCR. All were negative.



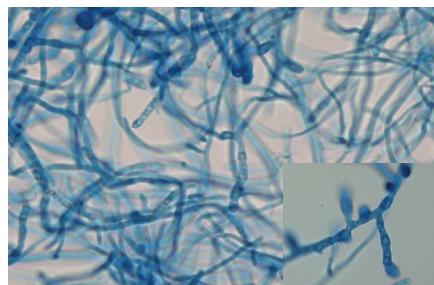
Other Animals

Disseminated coccidioidomycosis was confirmed by arthroconidial morphology on fungal culture in a 9 year old male alpaca with a 2 month history of raspy breathing, coughing, and weight loss. Numerous cases of this disease have been identified in camelids in San Diego and elsewhere in endemic regions. Llamoids and horses appear to be predisposed to the disseminated form of this disease. It is presumed that camelids have a MHC-based or similar genetic susceptibility to this disease, based on patterns and distribution of infection. Local research has suggested this type of genetic susceptibility in Przewalski's horses.

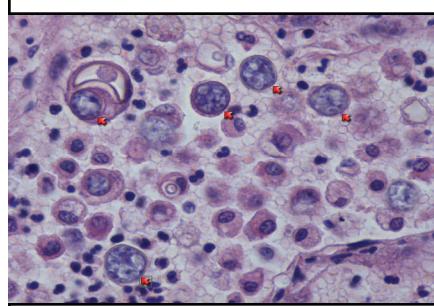
Streptococcus equi subspecies equi was cultured from fetal heart blood of an aborted Arabian horse fetus and identified by the Biolog Identification System.

Pasteurella multocida was cultured from the lung tissue of a 7 year old male rabbit diagnosed with a severe, multifocally extensive, acute necrotizing pneumonia with intraleisional bacteria.

Shigella sonnei, ranging from light to moderate, was cultured from fecal samples of 4 Angolan Colobus monkeys. In addition to these monkeys, feces from 8 lowland gorillas were submitted for culturing, however *Shigella* species were not isolated from any of these samples.



Coccidioides immitis in its infectious phase, as it is found in soil. Note the barrel-shaped arthroconidia.



Coyote lungs with intraleisional endosporulating *Coccidioides immitis* spherules.



Other News

The Office of the County Veterinarian was founded in 1933 to help poultry farmers. With the addition of the San Diego County Animal Disease Diagnostic Laboratory (ADDL), it has evolved to include all livestock, wildlife, companion and exotic animals with the purpose of diagnosing those diseases transmissible between animals and from animals to people. Other functions include monitoring for foreign animal diseases, assisting law enforcement with animal cruelty cases, educating Western University veterinary students in pathology, working with biotechnology companies, the FDA, USDA, and other government agencies. We serve as an international study site, provide externships, and utilize the latest diagnostic techniques in molecular biology.

Our 3 veterinary pathologists (a 4th pathologist was added in 2007) and supporting staff performed over 2500 necropsies and other tests in 2006 and evaluated over 4700 tissue samples ranging from antelopes and boa constrictors to tortoise and zebras. Rabies tests were conducted in the lab on 882 animals (the most in the state!) with 8 positive bats detected. This laboratory also tested over 50 tick pools for *Franciscella tularensis* and/or

Borrelia burgdorferi; all were negative. Two hundred forty eight birds were tested for avian influenza (all negative) with the help of our surveillance partners at Vector Control, California Dept. of Food & Agriculture., the Dept. of Animal Services, Environmental Health, the USDA, and the public.

ADDL continues its involvement in emergency response exercises with County Health and Human Services, Office of Emergency Response, and Department of Environmental Health. Additionally, this office has purchased and assembled emergency response field kits in order to contain disease and sanitize affected areas in the event of an outbreak of a foreign animal disease such as avian influenza. Response teams are being trained to safely and efficiently detect and contain disease in order to limit its spread and protect public and animal health in the event of an outbreak of avian influenza.

Ongoing outreach and education remains a focus of the Office of the County Veterinarian and ADDL. Last month, presentations were made to 4H & FFA students, the Dept. of Animal Services Academy, Bird Flu Responders (from multiple departments at the state and federal levels), the CRES State of Endangered Species Symposium, and UCSD's Careers in Veterinary Medicine class.

Office of the County Veterinarian

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Agriculture, Weights & Measures

San Diego County Animal Disease Diagnostic Laboratory
5555 Overland Avenue, Ste 4103
San Diego, CA 92129-1250
www.sdcountyvet.org
(858) 694-2838
Fax (858) 517-4268